PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Taisuke MIYAMOTO et al. Attn: PCT Branch

Application No. New U.S. National Phase of PCT/JP2005/003834

Filed: August 7, 2006 Docket No.: 129019

For: FUEL CELL SYSTEM

TRANSMITTAL OF TRANSLATION OF THE ANNEXES TO THE INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

Attached hereto is a translation of the annexes to the International Preliminary Report on Patentability (Form PCT/IPEA/409). The attached material replaces the claims in their entirety from page 31 to page 33.

Respectfully submitted,

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Date: August 7, 2006

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What is claimed is:

1. (AMENDED) A fuel cell system comprising:

a fuel cell;

an exhaust gas passage for allowing an exhaust gas from the fuel cell to flow through; and

an impurity removal member placed in the exhaust gas passage for removing impurities contained in moisture particles mixed in the exhaust gas;

wherein the impurity removal member is capable of exchanging ions.

2. The fuel cell system according to claim 1, wherein the impurity removal member is provided in the exhaust gas passage of a hydrogen circulation system.

3. The fuel cell system according to claim 1 or 2, wherein a gas-liquid separator is provided in the exhaust gas passage, and the impurity removal member is placed on the inside wall surface of the gas-liquid separator.

4. The fuel cell system according to claim 1 or 2, wherein a gas-liquid separator is provided in the exhaust gas passage, and the impurity removal member is placed in such a manner that a space is formed between the inside wall surface of the gas-liquid separator and the outside surface of the impurity removal member.

5. The fuel cell system according to claim 3 or 4, wherein the impurity removal member is configured so that it increases a flow resistance the closer it is

to a gas outlet of the gas-liquid separator.

6. The fuel cell system according to claim 1 or 2, wherein a gas-liquid separator is provided in the exhaust gas passage, and the impurity removal member is located downstream from the gas-liquid separator.

7. The fuel cell system according to any one of claims 1 to 6, wherein the impurity removal member is treated to make it water-repellent.

8. The fuel cell system according to claim 7, wherein a water-repellent member is placed on the outside surface of the impurity removal member.

9. The fuel cell system according to claim 7, wherein the impurity removal member is put in a container made of a water-repellent member.

10. The fuel cell system according to any one of claims 1 to 9, wherein an accommodating member capable of changing its shape in response to changes in the volume of the impurity removal member is provided.

11. The fuel cell system according to claim 10, wherein the accommodating members are distributed in the impurity removal member.

12. The fuel cell system according to claim 10 or 11, wherein the accommodating member is placed around the outside surface of the impurity removal member.

13. The fuel cell system according to any one of claims 10 to 12, wherein the accommodating member is made of a porous material.

14. The fuel cell system according to claim 10 wherein the impurity removal member is provided inside the gas-liquid separator, and the accommodating member includes an elastic member and is located at a position outside the gas-liquid flow path of the gas-liquid separator.

15. The fuel cell system according to any one of claims 1 to 14, wherein the impurity removal member contains an ion exchange resin.

16. (ADDED) The fuel cell system according to claim 4, wherein a space that is open and extends from the lower part of the gas-liquid separator to its top and connected to a circulation passage is formed in the approximate central part of the impurity removal member.

17. (ADDED) The fuel cell system according to any one of claims 3 to 16, wherein the gas-liquid separator separates a gas-liquid mixture fluid into a gas and a liquid by swirling the gas-liquid mixture fluid.

18. (ADDED) The fuel cell system according to claim 15, wherein the ion exchange resin is put in a resin case with openings.